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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/811,728      | 03/29/2004  | Hiroyuki Takamura    | CU-3663 RJS         | 1431             |

7590

04/13/2005

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EXAMINER

CHANG, CHING

ART UNIT

PAPER NUMBER

3748

DATE MAILED: 04/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/811,728             | TAKAMURA, HIROYUKI  |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Ching Chang            | 3748                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

This Office Action is in response to the amendment filed on 02/17/2005. Claims 3-4 are cancelled as requested.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. ***Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sada (US Patent 5,997,988) in view of Nishioka et al. (US Patent 6,367,439).***

Sada discloses a valve train (See Fig. 3) for an internal combustion engine comprising a cam lobe (4) fixed on a cam shaft (5) and a roller follower (1) provided with a roller (11) to come in rotation-contact with the cam lobe, and the surface roughness Ra of the outer circumferential surface (7) thereof is 1.4 or 1.1  $\mu\text{m}$  (within the range of 0.4 to 2.2  $\mu\text{m}$ )(See Col. 3, line 30 through Col. 5, line 40), wherein the surface roughness Ra of the outer circumferential surface (11a) of the roller is 1.4 or 1.1  $\mu\text{m}$  (within the range of 0.4 to 2.2  $\mu\text{m}$ )(See ABSTRACT; Table 1).

Sada discloses the invention as recited above, however, fails to disclose the cam lobe being made of an iron based sintered material.

The patent to Nishioka on the other hand, teaches that it is conventional in the cam art, to utilize a cam (1) made of an iron based sintered material (See Col. 4, line 46 through line 67) for an engine valve train.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the cam made of an iron based sintered material as taught by Nishioka in the Sada device, since the use thereof would provide an improved engine train with a durable cam rotating contact surface.

### ***Response to Arguments***

4. Applicant's arguments filed 02/17/2005 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "elimination of minute slippage between the cam lobe and the the roller follower to reduce the friction loss" (See Page 2, Attorney's Remarks)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, regarding the Attorney's contention "In Sada, the 1.4  $\mu\text{m}$  and 1.1  $\mu\text{m}$  measurement is the maximum height "Ry" for the rollers' not the cam lobe. Furthermore, the maximum height "Ry" parameter is different from the surface roughness Ra" (arithmetical mean roughness) parameter that is claimed, the Examiner disagrees. As a matter of fact, "arithmetical mean roughness" has not been disclosed, only "the surface roughness Ra of the outer circumferential surface" has been disclosed in the Specification of this instant application (See Pages 8-10, 12-13, etc.), in addition, the Sada reference does teach "the present invention is applicable to all machine parts each having a contact surface which enters a state of at least one of rolling contact and sliding contact with the other part opposite thereto" (See Col. 5, line 36-39), accordingly, the test data of the outer circumferential surface roughness Ry in Table 1 of Sada is applied to cam lobe too. It appears that Ry would be not differentiated from Ra, both direct to the same outer circumferential surface roughness. Additionally, the Examiner agrees with the Attorney's Remarks "Nishioka describes a cam lobe made of an iron based sintered material". Accordingly, the Examiner deems that It would have been obvious to one

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having ordinary skill in the art at the time the invention was made to have utilized the cam made of an iron based sintered material as taught by Nishioka in the Sada device, since the use thereof would provide an improved engine train with a durable cam rotating contact surface.

### ***Conclusion***

**5. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ching Chang whose telephone number is (571)272-4857. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

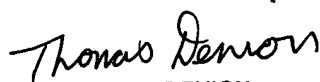
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571)272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner

  
Ching Chang

  
THOMAS DENION  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700